SAVICH, A.V.; SHAL'NOV, M.I.

Decomposition of polynucleotides and their precursors caused by gamma radiation. Radiobiologiia 1 no.1:23-29 '61. (MIRA 14:7)
(GAMMA RAYS--PHYSIOLOGICAL EFFECT) (NUCLEOTIDES)

SAVICH, A.V.; SHAL'NOV, M.I. (Moscow)

Action of sodium persulfate on pyrimidine bases. Zhur.fiz.khim. 35 no.11:2509-2513 N '61. (MIRA 14:12)
(Sodium peroxydisulfate)
(Pyrimidine)

S/205/62/002/005/002/017
D268/D308

AUTHOR: Shal'nov, M.I.

TITLE: Radiolysis of orotic acid

PERIODICAL: Radiobiologiya, v. 2, no. 5, 1962, 654 - 661

TEXT: To obtain information on the changes induced in the pyrimidine nucleotides by irradiation, the kinetics of the radiochemical reactions of orotic acid (OA), the common antecedent of DNA and RNA pyrimidines, were studied. Irradiation was in the atmosphere with Co^{60} gamma rays at 330 rad/min, the doses being 500 - 50,000 rad in some cases. Aqueous OA solutions were used, with an initial concentration of 10^{-5} - 10^{-3} M and pH 7 and 5.5. In neutral solutions at these concentrations, OA decomposition products increased from 1.5 to 3 mol/ev, rising with pH 5.5 at 10^{-5} - 10^{-4} M and at 10^{-4} - 10^{-3} M to 7 mol/ev. The presence in the sol of equimolar $Na_2S_2O_8$ impurities had a sensitizing effect on radiolysis giving a multiple increase to the decompositon product at 3 x 10^{-5} M, the effect increasing as the impurity increased. Study of OA dark reactions with so-

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Radiolysis of orotic acid

S/205/62/002/005/002/017
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dium persulfate suggested that sensitized radiolysis may be a chain mechanism. There are 5 figures.

SUBMITTED: March 2, 1962

Card 2/2

L 33552-65 EWA(h)/EWT(m)

ACCESSION NR AM4042768 BOOK EXPLOITATION 19 B+1 S/

Petrov, Rem Viktorovich; Pravetskiy, Vladimir Nikolayevich; Stepanov, YUriy Sergeyevich; Shal'nov, Mikhail Ivanovich

Protection from radioactive fallout (Zashchita ot radioaktivnykh osadkov), Moscow, Medgiz, 1963, 187 p. illus., biblio. 28,000 copies printed.

TOPIC TAGS: radioactive fallout, radiation injury, radiation dosimetry, thermonuclear explosion

TABLE OF CONTENTS [abridged]:

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L 33552-65
ACCESSION NR AM4042768

SUBMITTED: 06Jun63 SUB CODE: LS, CB, PH

NO REF SOV: 013 OTHER: 019

Card 2/2

SHAL'NOV, M.I.

Correlation between the data of radiation chemistry of polynucleotides and their precursors and some radiobiological effects. Trudy MOIP. Otd. biol. 7:47-59 '63. (MIRA 16:11)

AMIRAGOVA, M.I.; DUZHENKOVA, N.A.; SAVICH, A.V.; SHAL'NOV, M.I.; PODOSHVINA, V.A., red.

[Primary radiobiological processes] Pervichnye radiobiologicheskie protsessy. [By] M.I.Amiragova i dr. Moskva, Atomizdat, 1964. 286 p. (MIRA 17:12)

KOLOMIYETSEVA, N.P.; SEMENOV, M.I.

Metabolism of thymidine. Radiobiologiia 4 no.3:360-366 '64.
(MIRA 17:11)

L 22782-66 EWT(1)/T JK

ACC NR: AP6007764 SOURCE CODE: UR/0205/66/006/001/0101/0104

H4
H3
B

AUTHOR: Petrova, N. D.; Shal'nov, M. I.

ORG: none

1988 6,4455

TITLE: Investigation of the radiation protection effect of DNA, RNA, RNA hydrolysate and orotic acid on leukopoiesis in rabbits and rats

SOURCE: Radiobiologiya, v. 6, no. 1, 1966, 101-104

TOPIC TAGS: radiation protection, leukopenia, leukopoiesis, DNA, RNA, radiation sickness, radiation damage

ABSTRACT: The effect of DNA, RNA, RNA hydrolysate and orotic acid--administered before and after irradiation--on leukopoiesis during radiation sickness in rabbits and rats is discussed. The control and experimental rabbits were given a single dose of 550 rad; the rats were exposed to three doses: 100, 200, and 400 rad. Blood was extracted for analysis 1, 3, 7, 12, and 20 days following irradiation. The number of leukocytes in 5 ml of peripheral blood in irradiated experimental and control animals was tallied and compared. Changes in the number of leukocytes in the peripheral blood of the rabbits and rats are graphed. It is concluded that nucleinic preparations are of greater therapeutic than prophylactic benefit; while they do almost nothing to halt leukopenia, they have a beneficial effect on the restoration of leukopoiesis. It is

UDC: 577.391 : 628.58

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L 22782-66
ACC NR: AP6007764

recommended that nucleinic preparations be tested for their therapeutic effect on irradiated organisms injected with radiation protection agents which form complexes with DNA. The authors thank Professor I. I. Ivanov at whose initiative the present work was carried out. Orig. art. has: 2 figures. [14]

SUB CODE: 06/ SUBM DATE: 29Jun64/ ORIG REF: 005/ OTH REF: 005
ATD PRESS: 4229

Card 2/2

ACC NR: AM5008927 BOOK EXPLOITATION UR/

Amiragova, M. I.; Duzhenkova, N. A.; Savich, A. V.; Shal'nov, M. I.

Primary radiobiological processes (Pervichnyye radiobiologicheskiye protsessy) Moscow, Atomizdat, 1964. 286 p. illus., biblio. 2700 copies printed. Editor: V. A. Podoshvina; Technical editor: Ye. I. Mazel'; Proofreader: M. I. El'mus

TOPIC TAGS: amino acid, ionizing radiation biologic effect, nucleic acid, porphyrin compound, radiation biochemical effect, radiation cell effect, radiation tissue effect

PURPOSE AND COVERAGE: This monograph was intended for specialists in the fields of radiology and radiation chemistry, as well as for chemists and physicists interested in the effect of ionizing radiation on living organisms. In this monograph, the transformation of the energy of ionizing radiation in biologic media and the effect of radiation on three classes of biologically important compounds: (1) nucleic and low-molecular material entering into their composition; (2) porphyrins and other materials playing an important role in tissue respiration; and (3) amino acids and albumins are analyzed; also analyzed is the role of these processes in the injurious effect of radiation. The authors express their gratitude to N. V. Timofeyev-Resovskiy for his invaluable advice.

Card 1/2

SHAL'NOV, N.A., gornyy inzh.; SAVENKO, Yu.F., kand. tekhn. nauk

Rapid mining in mines of the Pervomayskiyugol' Trust. Ugol' 39 no.5:27-28 My '64. (MIRA 17:8)

1. Trest Pervomayskugol' (for Shal'nov). 2. Kommunarskiy gornometallurgicheskiy institut (for Savenko).

SHALUNOV, N.G.

Lock spring on the shuttle winding mechanism. Obm.tekh.opyt. [MLP] no.15:24-25 '56. (MIRA 11:11)
(Looms)

SHAL'NOV, V. A.

USSR/ Miscellaneous - Industrial processes

Card 1/1 Pub. 103 - 3/24

Authors : Shal'nov, V. A.

Title : Certain problems of high-speed grinding

Periodical : Stan. i instr. 11, 6-9, Nov 1954

Abstract : The technical and safety problems involved in high-speed grinding are discussed. Measures for the obtainment of high accuracy of ground surfaces and for the elimination of safety hazards during the operation of high-speed grinding machines, are suggested. Graphs; drawings; illustration.

Institution : . . .

Submitted : . . .

SHAL'NOV, Valeriy Alekseyevich, kandidat tekhnicheskikh nauk; CHESTNOV, A.L., kandidat tekhnicheskikh nauk, retsenzent; KARATYGIN, A.M., dotsent, kandidat tekhnicheskikh nauk, retsenzent; BEFZEL'MAN, R.D., inzhener, redaktor; PETROVA, I.A., izdatel'skiy redaktor; ZUDAKIN, I.M., tekhnicheskiy redaktor

[Fast grinding of alloyed structural steel] Skorostnoe shlifovanie legirovannykh konstruktsionnykh stalei. Moskva, Gos. izd-vo obor. promyshl., 1956. 126 p. (MIRA 9:12)
(Steel, Structural) (Grinding and polishing)

AID P - 4207

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 8/20

Author : Shal'nov, V. A.

Title : Grinding and Polishing of Ceramic Alloys

Periodical : Stan. i instr., 1, 26-28, Ja 1956

Abstract : The author describes some results of his studies of abrasive disks and belts used for grinding and polishing of ceramic alloys. Since ceramic alloys are not uniform, and differ in form, texture and color, the abrasives of diamond-dust, green and black carborundum, electro-corundum, and other materials, are selected for use on disks or belts to obtain optimum results. Two drawings, 4 graphs, 3 diagrams, 1 table and 1 picture.

Institution : None

Submitted : No date

PHASE I BOOK EXPLOITATION SOV/1452

25(1)

Shal'nov, Valeriy Alekseyevich

Shlifovaniye i polirovaniye lopatok gazoturbinnykh dvigateley (Grinding and Polishing Blades of Gas Turbine Engines) Moscow, Oborongiz, 1958. 349 p. 3,000 copies printed.

Reviewer: V. S. Korsakov, Doctor of Technical Sciences, Professor; Ed.: V. Z. Freydberg, Candidate of Technical Sciences; Ed. of Publishing House: I. A. Petrova; Tech. Ed.: V. P. Rozhin; Managing Ed.: A. I. Sokolov, Engineer.

PURPOSE: This book is for engineering-technical workers of machine-building plants, and for scientific research institutes.

COVERAGE: The book describes present-day machine tools for machining blades and roots of buckets for aviation turbine jet engines and includes a description of belt grinding machines. Descriptions

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are given of the most successful designs for universal grinding machines adapted to the manufacture of buckets. Methods of grinding and finishing various types of bucket roots are described. The introduction of highly productive methods of grinding, polishing, and inspection are discussed. Methods of grinding and polishing without danger of burns and cracks are described. Soviet and non-Soviet investigations and experimental work in the field of bucket manufacture by means of abrasive instruments are generalized. It is stated that the volume of grinding and polishing buckets by flexible disks and abrasive belts is increasing. The author thanks Professor, Doctor of Technical Sciences V. S. Korsakov for reviewing the book and Candidate of Technical Sciences V. Z. Freyberg for help in editing it. The bibliography consists of 44 references, 18 of which are Soviet, 22 English, and one Czech.

SHAL'NOV, V.A.

Surface smoothness of alloyed steels subjected to high-speed cylindrical external grinding. Trudy Sem. po kach. poverkh. no.3: 217-222 '57. (MLRA 10:11)

(Steel alloys) (Surfaces (Technology))
(Grinding and polishing)

BELIKOV, Valeriy Alekseyevich

Grinding and Polishing of Blades in Gas Turbine Engines. Wright-Patterson Air Force Base, Technical Information Center, 1960.

149 p. Illus., Diagrs., graphs, tables (MCL-412/V)

Translated from the original Russian: Shlifovaniye I Polirovaniye Lopatok Gazoturbinnykh Dvigateley, Moscow, 1958.

Includes Bibliographies.

S/795/62/000/000/005/007

AUTHOR: Shal'nov, V.A.

TITLE: Methods for the grinding and polishing of large panels.

SOURCE: Vysokoproizvoditel'noye shlifovaniye. Ed. by Ye.N.Maslov. Kom. po tekh. mashinostr. In-t mashinoved. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 162-168.

TEXT: The paper describes an experimental investigation of equipment suitable for the grinding and polishing of large panels, such as those employed in aircraft construction. The methods investigated comprise a polishing method in which the part is subjected to the action of a pulsating emulsion, the hydroabrasive method, the method of the backed-up tape heads, a method employing a broad abrasive tape, and methods employing small mechanized devices. Polishing of a pulsating part is done in an especial bath, in which the panel specimens are capable of pulsating motion. The panel is immersed in one of several abrasive fluid mixtures, with grain sizes from 1 to 18 mm. The abrasive materials were minerals of various natural and artificial origin, and also metallic grains, including quarry stone, granite, Tuchkovo sand, Ti slag, grinding-disk crums, etc., also cast-iron fragments and cast-iron gravel. A shaking rate of appx. 200 full stroke-cycles/min and

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an amplitude of appx. 85 mm were maintained for about 35 min. Best results were obtained with the cast-iron gravel with grains 1-1.5 mm diam. The use of surface-active lubricating and cooling liquids, such as caustic soda, increased the polishing effectiveness considerably. Hydroabrasive polishing was performed by means of a fluid suspension of abrasive particles issuing from a multiplicity of nozzles and impinging upon the part to be polished at speeds of 50 m/sec and more. Electrocorundum or quartz sand of grain size 80 was employed as an abrasive. 25-50 parts by weight of the abrasive were suspended in 75-50 parts by weight of soda emulsion. Corrosion protection was afforded by an addition of 0.5-1% Na nitrite, and a greater surface brightness was achieved by an addition of Na triphosphate. Air pressure: 5-100 atm; impingement distance: 50-100 mm from the nozzle; best effectiveness at 10-50 mm and a nozzle-aspect angle of 45°. Broad-tape grinding and polishing. The geometry of the equipment employed is described, including the possible utilization of back-up surface which permit the tape to follow curved and wavy surface. The wear resistance of the abrasive tape can be increased by impregnating it with methanol, casein glue, or lacquer. Small-scale mechanical devices: Miscellaneous polishing aids, such as felt disks carrying abrasive grains and small polishing machines with disks are described and shown in cross-section. An over-all comparison of the various methods described here is given in a summary table, showing the ranges of applicability of each of the methods. Essentially, the pulsating method

is applicable only to panels with longitudinally variable and longitudinally ribbed shape. In the presence of any transverse ribbing the method is not applicable. The hydroabrasive method is most suitable for waffle-shaped panels and panels with cross-ribs, but its productivity is relatively limited and the make-ready of the equipment for products of different shapes is not simple. The broad-tape polishing method is effective on flat surfaces only. Depressions in the surfaces to be polished may remain untouched. A substantial cooling and suction-type ventilation plant is indispensable for the use of this method. Polishing by means of backed-up tape heads is more labor-consuming than the other methods, yet it is suitable for use on existing milling machines without incurring any major new capital investment. There are 5 figures and 1 table; no references. The participation in the work of Engineer S. A. Vigdorchik, G. M. Koshelev, V. I. Kotov, L. D. Kalinovskiy, and V. I. Papkov is acknowledged.

BELEVTSEV, A.T., kand. tekhn. nauk; GOLIKOV, V.I., kand. tekhn. nauk; GOTSERIDZE, R.M., inzh.; YEFIMOV, V.P., kand.tekhn. nauk [deceased]; KOPANEVICH, Ye.G., kand. tekhn. nauk; MALOV, A.N., prof.; PARFENOV, O.D., kand. tekhn. nauk; ROZENBERG, A.G., tekhn.; SEMIBRATOV, M.N., kand. tekhn. nauk; SKURATOV, A.Ye., kand. tekhn. nauk; SOKOLOVSKIY, I.A., kand. tekhn.nauk; SYROVATCHENKO, P.V., kand. tekhn.nauk; TISHCHENKO, O.F., doktor tekhn. nauk; USHAKOV, N.N., kand. tekhn. nauk; CHUMAKOV, V.P., kand. tekhn. nauk; SHAL'NOV, V.A., kand. tekhn.nauk; SHISHKIN, V.A., kand. tekhn.nauk; YUZHNYY, I.I., inzh.; BLAGOSKLONOVA, N.Yu., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Manual for engineers in the instrument industry]Spravochnik tekhnologa-priborostroitelia. Pod red. A.N.Malova. Moskva, Mashgiz, 1962. 988 p. (MIRA 16:2)
(Instrument manufacture)

SHAL'NOV, V.A., kand.tekhn.nauk; BARMIN, B.P., kand.tekhn.nauk

Improved means for minor mechanization. Mashinostroitel' no.3: 14-15 Mr '63. (MIRA 16:4)

(Technological innovations)

SHAL'NOV, V.A.; MESHCHERYAKOV, A.V.; KALINOVSKIY, L.D.; BARMIN, B.P.

New method for finish machining of parts made of nonmagnetic materials. Stan.i instr. 34 no.7:20-22 Jl '63. (MIRA 16:9)
(Grinding and polishing)

SOV/122-59-6-1/27

AUTHORS: Khaylov, M.A., Doctor of Technical Sciences, Professor, Shal'nov, V.I. and Mogilevskiy, Ye.Z., Engineers

TITLE: Investigation of the Operation of a Two-stroke Engine with Disc-type Valve Gear

PERIODICAL: Vestnik mashinostroyeniya, 1959, Nr 6, pp 3 - 8 (USSR)

ABSTRACT: A two-stroke engine with gas-distribution control by one inlet and one exhaust disc based on a patent due to V.I. Shal'nov (Author's Certificate Nr 8243) is stated to yield a relatively large power output per unit of swept volume. A single cylinder test engine with a bore of 148 mm, a stroke of 144 mm (2.48 litres) and a nominal compression ratio of 5.56 illustrated in cross-section (Figure 1) and described was built and tested. The distributor discs are placed in the cylinder head horizontally (inlet) and alongside the cylinder (exhaust) at a small angle to the vertical so that the inlet is vertical against the piston face and the exhaust nearly horizontal, at a small angle to the piston face. Both discs have similar profiled openings and are rotated by pinions engaging with their toothed rims. The discs are sealed by face seals on the side facing the cylinder

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against sealing rings which, in turn, are sealed by piston-ring type seals against the cylindrical recess in which they are housed. The absence of scavenge ports reduces the overall length of the cylinder. The optimum fuel injection and ignition crank angles were found by test, at 1 600 r.p.m. and 980 mm mercury column scavenging pressure, to be 160° ahead of the t.d.c. and 35° ahead of the t.d.c., respectively. 12 variants for locating the injection nozzle and sparking plug in the combustion chamber were tested, all yielding satisfactory operation without decisive advantage over one another. Tests with different gas distribution phasing showed the best angle for exhaust opening to be 95° after the t.d.c. and closing 239° after the t.d.c. The inlet opening at 121° after the t.d.c. and closing up at 265° after the t.d.c. were found best. Varying the phasing produces output power differences of up to 15%. Power and fuel consumption curves were plotted against

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Investigation of the Operation of a Two-stroke Engine with Disc-type Valve Gear

the excess air coefficient at different scavenge pressures, showing a large increase of power with scavenge pressure, accompanied by increased specific fuel consumption. Increasing the speed from 1 600 to 2 000 r.p.m. reduces the indicated pressure by reducing the weight of the cylinder charge. The specific fuel consumption, the utilisation of the scavenge air, the scavenge air coefficient, the excess air coefficient, the indicated pressure and the power have been plotted against the scavenge air pressure (Figure 4). It is concluded that the gas-exchange process has not been fully effective. Increasing the size of the inlet and outlet ports would be necessary. The indicator diagram (Figure 5b) shows an adequate fullness in the idle stroke region and a relatively low value of the maximum pressure. The superiority of the tested engine compared with the Ricardo engine operating under similar conditions (e.g. "Aircraft Engineering", 1950) is claimed. The engine components have worked satisfactorily except for some seizures between the inlet

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SOV/122-59-6-1/27

Investigation of the Operation of a Two-stroke Engine with Disc-type Valve Gear

disc and cover. Apart from reduced cylinder length, the basic advantages are: the elimination of reciprocating distribution gear and the removal of the piston from the exhaust gas zone. The mechanism can be used in a two-stroke Diesel engine. There are 5 figures.

Card 4/4

SHALNOV V. P.

ZULOV, V.G.; SHAL'NOV, V.P.; KUZNETSOVA, Ye.B., redaktor; YUGOV, V.A., redaktor; NEGRIMOVSKAYA, R.A., tekhnicheskiy redaktor.

[Physics problems] Zadachi po fizike. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 320 p. (MLRA 7:11)
(Physics--Problems, exercises, etc.)

ZUBOV, Viktor Gennadiyevich; SHAL'NOV, Vladimir Petrovich; KUZNETSOVA, Ye.B., redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor

[Problems in physics; textbook for self-instruction] Zadachi po fizike; posobie dlia samoobrazovaniia. Izd- 3-e, ispr. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1955. 320 p. (MIRA 8:7)
(Physics--Problems, exercises, etc.)

SHAL'NOV, V.P.

A few problems given at the Physics Olympiads held at the Moscow State University. Fiz. v shkole 15 no.5:77-78 S-O '55. (MIRA 9:1)

(Physics--Examinations, questions, etc.)

SHAL'NOV, V.P.

A few problems suggested for the physics Olympiad at the Moscow State University. Fiz. v shkole 15 no.6:77-78 N-D '55. (Physics--Examinations, questions, etc.) (MLRA 9:2)

SHAL'NOV, V. P.

USSR/General Problems - Problems of Teaching A-3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33607

Author : Shal'nov, V. P.

Institution : None

Title : Certain Problems Asked at the Physics Competition at Moscow State University

Original Periodical : Fizika v Shkole, 1956, No 2, 87-89; No 6, 77-78

Abstract : None

Card 1/1

ZUBOV, Viktor Gennadiyevich; SHAL'NOV, Vladimir Petrovich; KUZNETSOVA, Ye.B., redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor

[Problems in physics; a manual for self-education] Zadachi po fizike; posobie dlia samoobrazovaniia. Izd.4-oe, ispr. Moskva, Gos.izd-vo tekhniko-teoret.lit-ry, 1957. 320 p. (MLRA 10:9)
(Physics--Problems, exercises, etc.)

LARIOKHINA, Natal'ya Mikhaylovna; MOTINA, Ye.I., lingvist, red.; SHAL'NOV, V.P., fizik, red.; DEM'YANOVA, L.G., red.; POTAPOVA, M.D., red.; YERMAKOV, M.S., tekhn. red.

[Reader on physics. Manual for foreign students studying the Russian language] Kniga dlia chteniia po fizike; uchebnoe posobie dlia studentov-inostrantsev, izuchaiushchikh russkii iazyk. Moskva, Izd-vo Mosk. univ., 1961. 168 p. (MIRA 14:10)
(Physics)

ZUBOV, Viktor Gennadiyevich; SHAL'NOV, Vladimir Petrovich; KUZNETSOVA, Ye.B., red.; LIKHACHEVA, L.V., tekhn. red.

[Problems in physics] Zadachi po fizike; posobie dlia samoobrazovaniia. Izd.7. Moskva, Gos.izd-vo fiziko-matemat. litry, 1963. 271 p. (MIRA 16:10)
(Physics--Problems, exercises, etc.)

BUKHOVTSEV, Boris Borisovich; KRIVCHENKOV, Vladimir Dmitriyevich; MYAKISHEV, Gennadiy Yakovlevich; SHAL'NOV, Vladimir Petrovich; NOVODVORSKAYA, Ye.M., red.; RAYSKAYA, N.A., red.

[Problems in elementaty physics; textbook for self-education] Sbornik zadach po elementarnoi fizike; posobie dlia samoobrazovaniia. Moskva, Izd-vo "Nauka," 1964. 438 p. (MIRA 17:7)

ACC NR: AP6021615 (N) SOURCE CODE: UR/0069/66/020/003/0279/0281

AUTHOR: Brazhnikov, Ye. M.; Dzantiyev, B. G.; Popov, V. N.; Russiyan, Ye. K.; Shalomeyev, A. S.

ORG: none

TITLE: Installation for the investigation of processes of chemonuclear synthesis under laboratory conditions

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 279-281

TOPIC TAGS: chemical synthesis, chemical energy conversion, fission product, radiation chemistry/ KhYaU-4 chemical synthesis unit, IRT nuclear reactor

ABSTRACT: The article deals with a possible direct use of atomic energy by transforming the energy of the fission fragments directly into chemical energy, bypassing intermediate energy forms such a smechanical, thermal, or electrical. In such a process, a mixture of simple gases passes through a chemonuclear unit, which is essentially a flow-through fuel element. The radiation produces radiation-chemical reactions that produce the end products. An example is the production of NO_2 from air under the influence of radiation. The authors describe special devices for the production of chemonuclear synthesis constructed at the Institute of Chemical Physics AN SSSR, in particular a circulating chemonuclear installation (KhYaU-4), intended to investigate synthesis in the gaseous phase under laboratory conditions. The apparatus constitutes a closed loop in which the gas mixture is circulated by a com-

UDC: 621.039: 541.15

Card 1/2

MOISEYEV, S., inzh.po tekhnike bezopasnosti; KALINOVSKIY, P., mekhanik; SHALOMOV, B., yuriskonsul't; TALANOVA, N., inzh.po tekhnike bezopasnosti; BYCHKOVA, I., inzh.; VORONOV, A., elektrik; SOKOLENKO, N.; KUTUZOV, P.; TOPYRIK, P., pensioner; FEDYUKOV, G., inzh.po tekhnike bezopasnosti; CHECHETKIN, A.; KLIMENT'YEVA, Ye.

Those, who serve us. Okhr. truda i sots. strakh. 3 no.7:52-53 Jl '60. (MIRA 13:8)

1. Reydovaya brigada. 2. Moskhladokombinat imeni Mikoyana (for Moiseyev). 3. Upravleniye Mosgorplodoovoshch (for Kalinovskiy). 4. TSentral'nyy universal'nyy magazin Voyentorga (for Shalomov). 5. Gosudarstvennyy universal'nyy magazin, Moskva (for Talantova). 6. Obshchestvennyy inspektor okhrany truda Mostorgstroya (for Bychkova). 7. Obshchestvennyy inspektor okhrany truda Mosrybokombinata (for Voronov). 8. Pravovoy inspektor Moskovskogo gorodskogo soveta profsoyuzov (for Sokolenko). 9. Obshchestvennyy inspektor okhrany truda kholodil'nika No.1, Moskva (for Kutuzov). 10. Moskovskiy rybokombinat (for Fedyukov). 11. Korrespondent gazety "Sovetskaya torgovlya" (for Chechetkin). 12. Zaveduyushchaya otdelom profsoyuznoy zhizni gazety "Sovetskaya torgovlya" (for Kliment'yeva). 13. Spetsial'nyy korrespondent zhurnala "Okhrana truda i sotsial'noye strakhovaniye" (for Gromov).

(Warehouses--Safety measures)
(Retail trade--Safety measures)

VAYNSHTEYN, G.; YELISEYEV, V.; SHALONKIN, B.; KASUMOV, K.; OZEROV, I.
ZHADAN, Ye.; MANUYLOV, V.; MISHIN, F.

Foremost workers taking part in the socialist competition.
Avt.transp. 35 no.9:32-33 S '57. (MIRA 10:10)
(Automobile drivers) (Highway transport workers)

SHALONSKIY, G.A.

Template for parquetry work on asphalt flooring. Rats.i izobr. predl.v stroi. no.60:3-4 '53. (MLRA 7:2)
(Parquetry)

SHALOPALKINA, T.G.

The analogy between the deformation properties of liquid-plastic and solid-plastic systems. Two kinds of plastic deformations and plastic viscosities in colloidal systems. A. A. Trapeznikov and T. G. Shalopalkina. *Colloid J. (U.S.S.R.)* 17, 457-8(1955)(Engl. translation). See *C.A.* 50, 4583f. B. M. R.

M. A. POOT
3 cop.

5

SHALOPALKINA, T.G.

3

The analogy between the deformation properties of liquid-plastic and solid-plastic systems. Two kinds of plastic deformations and plastic viscosities of colloidal systems. A. A. Trapeznikov and T. G. Shalopalkina. *Kolloid. Zhur.* 17, 471-2(1955); cf. ~~C.A. 50, 2248d.~~ When a 2% soln. of Al naphthenate in paraffin oil was deformed between two coaxial cylinders at a const. rate of deformation increase (e.g. 0.26/sec.), the shearing stress P was a complicated function of deformation ϵ. When ϵ increased, P first linearly increased (as in elastic deformation of solids), then was almost independent of ϵ (as in plastic deformation of solids), then increased (as in work-hardening), then decreased, and finally again became independent of ϵ; thus, the curve of P against ϵ for a liquid was very similar to those for solids. The 2 parts of the curve, along which P was nearly independent of ϵ, corresponded to 2 types of plastic viscosity. T. J. Bikerman

CH

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SHALOPALKINA, T. G.

3

Elastic deformation and its relaxation in an aluminum naphthenate gel. A. A. Trapeznikov and T. G. Shalopalkina. *Doklady Akad. Nauk S.S.S.R.* 111, 350-3(1956); cf. *C.A.* 43, 2672*e*; 46, 4326*b*, 8472*c*; 50, 4588*c*.—The silk-thread method of direct detn. of elastic deformation of Na naphthenate gel, which may reach several thousand %, was based on suspending 2 coaxial cylinders on a practically nonelastic wire or a silk thread, turning the outer cylinder at a const. speed through some angle, θ, and stopping it by means of a special level at the 0 position. When the outer cylinder is stopped, the inner cylinder becomes free and moves under the elastic deformation of the gel over an angle $\theta_e \leq \theta$, giving a direct detn. of the min. elastic deformation (resulting from the relaxation taking place during the motion of the inner cylinder). The shear deformation $\epsilon = [2\theta R_2^2/(R_2^2 - R_1^2)] \times 100$, where R_2 and R_1 are the outer and the inner cylinder radii (1.502 and 1.42 cm., resp.). Curves were plotted for $\epsilon_e = f(\epsilon)$ for a 2% gel concn. at velocity gradients of 17.1/sec. and 57.3/sec. which pass through a max. at $\epsilon = 6000\%$. The 1st portion of the curves is linear and $\epsilon_e = \epsilon$, i.e. all the deformation is elastic. The lagging of ϵ_e behind ϵ may be caused by relaxation or by a partial destruction of the structure. The restoration of the elastic recoil with time was also studied and the results are plotted.

W. M. Sternberg

TRAPEZNIKOV, A.A.; SHALOPALKINA, T.G.

Thixotropic properties of certain printing inks. Koll.zhur. 19 no.2:232-243 Mr-Ap '57. (MLRA 10:5)

1.Institut fizicheskoy khimii AN SSSR, Moskva.
(Thixotropy) (Printing ink)

AUTHORS: Shalopalkina, T. G., Trapeznikov, A. A. 20-118-5-41/59

TITLE: The Influence of the Deformation Rate on the Tixotropic Reduction Rate of Aluminum Naphthenate Gel and the Oscillographic Recording Method of Stress-Deformation Curves (Vliyaniye skorosti deformirovaniya na skorost' tiksotropnogo vosstanovleniya gelya naftenata alyuminiya i metod ostsillograficheskoy zapisi krivykh napryazheniye - deformatsiya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 994-997 (USSR)

ABSTRACT: The investigation of the tixotropy (tiksotropiya) is to be based on the application of the dissolving effect upon the system at any certain velocity gradient $\dot{\varepsilon}_{dissolution}$. The last measurements of reduction of structure are also to be carried out at a certain velocity gradient $\varepsilon_{modification}$. Thereby the following two methods can be used:

1) $\varepsilon_{dissolution} = \dot{\varepsilon}_{modification}$ and

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to the loop of the oscillograph. The simultaneous recording of the angle of rotation φ of the interior cylinder of the measuring device (and therewith of the stress P), and of the angle of rotation θ of the exterior cylinder, i.e. of the deformation ε, and of the deformation rate $\dot{\varepsilon}$ is of special importance. The carrying out of the measurements is shortly described, from which the following results are obtained:
1) The structural strength P_r is determined at different $\dot{\varepsilon}_{dis-solution} = \varepsilon_{modification}$ by the different elements of structure, which are differented by their reduction rate.
2) Those structure elements, which guarantee P_r at a smaller ε do not determine P_r at a greater $\dot{\varepsilon}$. 3) At different $\dot{\varepsilon}$ the states of structure corresponding to the time, which is necessary for a complete reduction, are not equal. Besides the here investigated reversible destruction of structure

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

268. L. N. Stavraki (Kuibishev): Strain design and general stability of structures.

269. L. N. Stavraki (Kuibishev): A general method of solving non-linear problems of structural mechanics.

270. R. D. Stepanov (Moscow): A contribution to the non-linear problem of plate flutter.

271. L. G. Stepanskii, N. P. Unksov (Moscow): On the use of variational principles for the approximate solution of some problems of plastic equilibrium.

272. A. I. Strelbitskaia (Kiev): Experimental investigation of the oblique bending of steel beams beyond the elastic limit.

A. S. Strogonov (Moscow): Strength and visco-plastic flow of soils.

274. G. L. Tar-Stepanian (Erevan): The relation between pore pressure and rate of creep of slopes.

275. L. A. Tulokovnikov (Tula): Finite plastic strains of non-linearly deformed bodies.

276. A. G. Tomlenson (Moscow): Piercing of metals by a spherical punch considering contact friction.

277. Io. L. Torchinskaia (Moscow): An asymptotic method of designing flexible blades of variable pitch at high speeds of rotation.

278. N. V. Turner (Moscow): Application of similarity methods to the analysis of the flow of rubber compounds.

279. A. A. Trapeznikov, I. G. Shalcralkina (Moscow): Dependence of the maximum elastic and discontinuous strains of aluminum-magnesium gels on strain rates.

280. S. A. Tumarkin (Moscow): An asymptotic method for the design of toroidal shells.

281. V. K. Turkin (Moscow): Some problems of soil dynamics.

282. N. V. Tlebin (Kazan): The flow in the boundary layer of an elastic, visco-plastic medium.

283. A. S. Ondatchov (Gorkii): Some problems concerning the analysis of stresses in shrink fits.

284. G. V. Uzhik (Moscow): On strength and rupture criteria for metals in the presence of stress concentrations.

285. J. J. Ulitskii (Kiev): Some problems of equilibrium stability.

286. A. A. Uzhanskii (Moscow): Analogy and model methods in problems of structural mechanics concerning bars and thin-walled structures.

287. M. T. Urazbaev (Tashkent): The problem of seismic strength of fluid supported hydraulic structures.

288. Ia. S. Uflyand (Leningrad): Application of integral transformations to the solution of some problems concerning an elastic wedge.

289. V. S. Fadeyev (Moscow): Deformations of plastic clays in moulding.

290. J. V. Fadeeev (Moscow): Elastic-plastic equilibrium of an acute granular wedge.

291. M. L. Faldman (Dnepropetrovsk): Stability and vibrations of orthotropic plates of variable thickness.

292. A. P. Filippov (Kharkov): Extensional vibrations of turbine discs.

293. M. M. Filonenko-Borodich (Moscow): On the possibility of generalizing the Mohr and Huber-Mises-Hencky theories of rupture.

294. N. J. Flaishman (Lvov): Some problems concerning the bending of plates and shells with stiffeners.

295. L. M. Flitman (Moscow): On the impact of a wave on a heavy rigid sphere embedded in an elastic medium.

296. V. A. Florin (Leningrad): Some problems concerning rock formations of hydraulic structures.

297. V. A. Florin (Leningrad): Present state and problems of soil mechanics.

298. V. A. Florin (Leningrad): Flow conditions for saturated sands.

299. N. V. Florina (Leningrad): Experimental study of real and apparent friction in vibrating soils.

300. B. N. Fradlin, S. M. Shakhnovskii (Kiev): On the construction of Green's functions for the equilibrium problem of shallow shells.

301. S. N. Fraifeld (Kharkov): Further development of the initial rheological equations.

302. V. M. Frolov (Moscow): Temperature stresses in cantilever plates and their effect on stiffness.

87767

S/069/60/022/006/004/008
B013/B066

11.2314 also 2915

AUTHORS: Shalopalkina, T. G. and Trapeznikov, A. A.

TITLE: Dependence of Ultimate Highly Elastic and Rupture Deformation on the Deformation Rate of the Gel Solution of Aluminum Naphthenate

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol 22, No. 6, pp. 735-742

TEXT: The present paper was presented in 1960 at the All-Union Congress of Mechanics in the Subsection of Rheology. It deals with the study of the dependences $\varepsilon_e(\varepsilon)$ and $P(\varepsilon)$ as well as $\varepsilon_{e\ max}(\varepsilon)$ and $\varepsilon_r(\varepsilon)$ in a range of ε as broad as possible for aluminum naphthenate gel. (ε_e = highly elastic deformation, ε_r = rupture deformation, ε = deformation rate). A 2% gel solution of aluminum naphthenate in non-polar medical vaseline oil was used. The study was carried out on the elasto—relaxometer (model 2) (Ref. 5). An elasto-viscosimeter (model 3) was used for the range of high ε (from 33 - 1100 sec^{-1}) and for the range of low ε (from 0.46-46 sec^{-1})

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Dependence of Ultimate Highly Elastic and Rupture Deformation on the Deformation Rate of the Gel Solution of Aluminum Naphthenate

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(Ref. 6) In order to record $\varepsilon_e(\dot{\varepsilon})$ curves, an automatic special device was constructed for the latter apparatus. The elastic deformation in the range of 0.46-45.8 sec^{-1} was found to increase rapidly at any given deformation. The increase of $\dot{\varepsilon}$ in the range of 37.45-1112 sec^{-1} shows an opposite result: with increasing deformation rate the maximum elastic deformation which is possible at the corresponding rate, decreases. This means that the elastic deformation at a considerable increase of $\dot{\varepsilon}$ has not time enough to develop completely. It may be seen from the $P(\varepsilon)$ curves recorded at the same time with $\varepsilon_e(\varepsilon)$ curves, that the P-values rapidly increase with increasing ε, the ε_r values, however, decrease, accordingly (Ref. 6) The maxima observed in the $P(\varepsilon)$ and $\varepsilon_e(\varepsilon)$ curves characterize different stages of structure destruction during the deformation of the system at $\dot{\varepsilon}$ - const. Fig. 4 gives the changes of $\varepsilon_{e\ max}$, ε_m and ε_r as a function of $\dot{\varepsilon}$ in logarithmic coordinates. Their correlation may be seen from $\varepsilon_{e\ max}$ and ε_m as well as from the similarity of their change. They

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Dependence of Ultimate Highly Elastic and Rupture Deformation on the Deformation Rate of the Gel Solution of Aluminum Naphthenate

S/069/60/022/006/004/008
B013/B066

are found to determine the limit of elasticity of the system and the deformation at any $\dot{\varepsilon}$. It results from Fig. 4 that ε_r may be both larger and smaller than ε_m for one and the same system. The elastic deformation was found to develop first during the deformation process. Plastic deformation occurs later, owing to gradual destruction of short structural elements. The considerable increase of P_r in the range of $\dot{\varepsilon}$ which corresponds to the descending branch of the $\varepsilon_m(\dot{\varepsilon})$ or $\varepsilon_{e\ max}(\dot{\varepsilon})$ curve (Fig. 1), is related to the increasing number of nodes and interlacings of the network. This is the result of a hindered stretching of chain-shaped particles and of their rupture in a highly coiled state. A reduction of the rupture deformation is equivalent to the formation of a denser structure. It was found from the dependence of the quantity ε_e on the relaxation time of the system (Fig. 5) for each of the $\dot{\varepsilon}$ studied that the time of thixotropic restoration of structure becomes shorter with increasing $\dot{\varepsilon}$. This was explained by the fact that in this connection only the mobile

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Dependence of Ultimate Highly Elastic and Rupture Deformation on the Deformation Rate of the Gel Solution of Aluminum Naphthenate

S/069/60/022/006/004/008
B013/B064

and quickly relaxing structural elements are preserved which form the structure (Table 1). $P(\varepsilon_e)$ curves for different $\dot{\varepsilon}$ were plotted on the basis of the data obtained (Fig. 6). They indicate the occurrence of the following ranges of deformation (Table 2): a) initial deformation with a high shear modulus which corresponds to an "elastic" deformation; b) medium range with a comparatively very low shear modulus which corresponds to the highly elastic deformation; c) end range with an increased modulus which corresponds to a highly elastic deformation of a reinforced structure. The one or the other type of deformation may prevail, according to $\dot{\varepsilon}$. There are 6 figures, 2 tables, and 8 Soviet references.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR, Moskva (Institute of Physical Chemistry AS USSR, Moscow)

SUBMITTED: March 11, 1960

Legend to Fig. 4: ε_e = elastic deformation, ε_m = deformation in which

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S/069/60/022/006/004/008
B013/B066

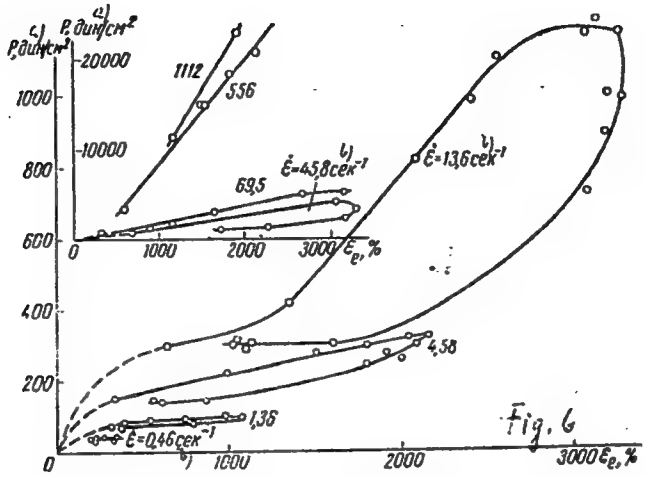

Fig. 6

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S/081/62/000/016/035/043
B171/B186

15.8110

AUTHORS: Trapeznikov, A. A., Shalopalkina, T. G., Amfiteatrova, T. A.

TITLE: Rheological and thixotropical properties of dispersions of alkyd resins modified by polyamid resins

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 16, 1962, 546, abstract 16P246 (Lakokrasochn. materialy i ikh primeneniye, no. 5, 1961, 3 - 10)

TEXT: The rheological and thixotropical properties of alkyd polyamid resin (APR) (alkyd resin modified by polyamid resin) dispersions in white spirit were investigated over large ranges of deformation velocities ($5 \cdot 10^{-3} - 5 \cdot 10^{2}$ sec^{-1}), of resin concentrations (30 - 90%), and of temperature, using a complex elasto-viscosimeter, which made it possible to reproduce the actual conditions under which APR-based paints are used. It has been established that the systems under investigation show clearly defined strength and thixotropies of viscosity. In particular, it has been shown that the viscous structure of the paint can be re-established

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by a low gradient flow after having been destroyed at a high velocity gradient. The characteristics of APR dispersions at early stages of their structure being re-established, are due to the viscous thixotropy, whereas after a long period of rest they are conditioned by strength and thixotropies of viscosity. It has been shown that the stability of structure and the viscosity quickly increase (following the exponential law) with the increase of the resin concentration, so that the running-off of the paint during its application is substantially changed. Data for deformation and rupture lead to the conclusion that the particles of APR are relatively compact and that the system has the character of a concentrated suspension. The effect of rheological and thixotropical properties of APR on the process of film formation and on the stability of pigment-containing systems has been investigated. [Abstracter's note: Complete translation.]

TRAPEZNIKOV, A.A.; SHALOPALKINA, T.G.; AMFITEATROVA, T.A.; Prinimala uchastiye: STEPANOVA, Ye.S.

Rheologic and thixotropic properties of the dispersion of alkyd resins modified by polyamid resins. Lakokras. mat. i ikh prim. no.5:3-10 '61. (MIRA 15:3)

(Resins, Synthetic) (Paint)

TRAPEZNIKOV, A.A.; SHALOPALKINA, T.G.

Relaxation development of stress in an aliminum naphthenate gel studied by the compensation method. Kolloid.zhur. 25 no.6:703-709 N-D '63.

Deformation, thixotropy, and aging of aluminum naphthenate gels. Ibid.:722-727 (MIRA 17:1)

1. Institut fizicheskoy khimii AN SSSR, Moskva.

L 64246-65 EWT(m)/EPF(c)/EWA(d)/EWP(j)/T/EWP(t)/EWP(b) RM/JD/WB

ACCESSION NR: AP5020221 UR/0069/65/027/004/0489/0493
541.182.025

AUTHORS: Amfiteatrova, T. A.; Shalopalkina, T. G.; Trapeznikov, A. A.

TITLE: Effect of surface-active agents on the thixotropic properties of alkyd-polyamide resins

SOURCE: Kolloidnyy zhurnal, v. 27, no. 4, 1965, 489-493

TOPIC TAGS: surface active agent, surface active substance, surface activity, polyamide resin, polymer

ABSTRACT: The mechanism of the thixotropic structure formation induced by surface-active agents was investigated. The effect of equimolar amounts of the following surface-active agents on the thixotropic properties of a dispersion of heklyd in white spirits was studied: butyl alcohol, cetyl alcohol, stearic acid, oxadecylamine, water, oxyethylated cetyl alcohol with two oxyethyl groups, oximecyclohexanon, alkamon OS-2 and siccative 63. The experimental method used in determining thixotropic properties was that of A. A. Trapeznikov and T. G. Shalopalkina (Kolloidn. zh. 19, 232, 1957). It was found that small additions of surface active agents enhance the strength of the structure, whereas large

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ACCESSION NR: AP5020221 3

additions decrease it. Surface active-agents with a large number of functional groups, e.g., alkamon-OS-2, cause a breakdown of the heklyd structure at relatively low concentrations. This effect was also observed on systems pigmented with rutile. Orig. art. has: 1 table and 5 graphs.

ASSOCIATION: Institut fizicheskoy khimii, AN SSSR (Institute for Physical Chemistry, AN SSSR)

SUBMITTED: 22Jul63 44,55 ENCL: 00 SUB CODE: GC OC

NO REF SOV: 005 OTHER: 002

Card 2/2

SHALOPUKHO, V.P.

What is hindering the converting of machine-tractor stations to business accounting. Nauka i pered.op.v sel'khoz. 7 no.9:43-44 S '57. (MIRA 10:10)

1. Glavnyy inzhener Rakverkskoy mashinno-traktornoy stantsii, Estonskoy SSR.

(Machine-tractor stations--Accounting)

SHALOV, I.I., nachal'nik.

From semi-handicraft to an extensive knit goods industry. Leg.prom. 7 no.11: 15-16 N '47. (MLRA 6:11)

1. Glavtrikotazh Ministerstva legkoy promyshlennosti SSSR. (Knit goods)

SHALOV, I.; LINDE, V.

Textile Industry and Fabrics

General technology of tricot production, by I. A. Lipkov. Reviewed by I. Shalov, and V. Linde. Leg. prom. No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, March 1952. UNCLASSIFIED.

SHALOV, I.I.

POTEMKIN, D.M.; SHALOV, I.I., retsenzent; GUTCHINA, N.Ya., redaktor.

[Design, installation and setting up of double-system circular hosiery machines] Ustroistvo, montazh i nakladka dvukhsistemnogo kruglochulochnogo avtomata. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1953. 69 p. (MLRA 7:8)

(Knitting machines)

SHALOV, Ivan Ivanovich; MELIKHOV, Savva Alekseyevich; MIKHAYLOV, Konstantin Dmitriyevich; LIPKOV, I.A., retsenzent; BURMISTROV, M.N., retsenzent; YAKUNKIN, M.T., retsenzent; PLEMYANNIKOV, M.N., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Planning knit goods factories]Proektirovanie trikotazhnykh fabrik. Pod red. I.I.Shalova. Moskva, Gos. nauchno-tekhnicheskoe izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1954. 355 p. (MLRA 8:4)
(Textile factories) (Knit goods)

SHALOV, I.I.

Lack of structural uniformity in knit fabrics and their mechanical properties. Leg.prom.15 no.9:23-26 S '55. (MLRA 9:1)
(Knit goods industry)

SHALOV, I.I.

Ways of reducing shrinkage in knitted fabrics. Leg.prom. 15 no.12: 25-29 D '55. (MLRA 9:5)

(Knit goods)

Name: SHALOV, Ivan Ivanovich

Dissertation: Special features of deformation of knitting and increasing the stability of its dimensions

Degree: Doc Tech Sci

Affiliation: [not indicated]

Defense Date, Place: 21 Jun 56, Council of Moscow Textile Inst

Certification Date: 29 Jun 57

Source: BMVO 18/57

SHALOV, I.I.

The stretch of wet knitting. Leg.prom. 17 no.6:36-38 Je '57. (MLRA 10:8)

(Knit goods)

SHALOV, I.I.

Limits of stretchability of knit fabrics. Leg. prom. 17 no.10: 38-42 O '57. (MIRA 10:12)

(Knit goods--Testing)

SHALOV, Ivan Ivanovich; ZAYTSYEV, T.M., red.; KNAKNIN, M.T., tekhn. red.

[Shrinkage of knitted fabric] Usadka trikotazha. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po legkoi promyshl., 1958. 176 p. (MIRA 11:7)
(Knit goods--Shrinkage)

SHALOV, I.I., prof.

Relation between the yarn number and the type of hosiery knitting machines. Tekst.prom. 19 no.1:48-49 Ja '59. (MIRA 12:1)
(Hosiery, Nylon) (Knitting machines)

PILLER, Bogumil [Piller, Bohumil]; TRAVNICHEK, Zdenek [Travniček, Zdeněk]; KONOPASEK, M. [translator]; SHALOV, I.I., doktor tekhn.nauk, red.; MINAYEVA, T.M., red.; LEVITSKAYA, N.N., tekhn.red.

[Synthetic fibers and characteristics of their processing in the textile industry] Sinteticheskie volokna i osobennosti ikh pererabotki v tekstil'noi promyshlennosti. Pod red. I.I.Shalova. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 177 p. Translated from the Czech. (MIRA 14:4)
(Textile fibers, Synthetic)
(Textile industry--Equipment and supplies)

SHALOV, I.I., doktor tekhn.nauk

Determining the crease resistance of artificial fur.
Tekst. prom. 20 no. 12:50-52 D '60. (MIRA 13:12)
(Fur, Artificial--Testing)

SHALOV, I.I., prof.

Design of hosiery according to the cover factor. Tekst.prom. 22 no.4:66-71 Ap '62. (MIRA 15:6)

1. Moskovskiy tekstil'nyy institut.
(Hosiery)

SHALOV, I.I., prof., doktor tekhn.nauk

Basic characteristics of artificial fur with a knit base. Tekst.-prom. 23 no.8:62-67 Ag '63. (MIRA 16:9)

1. Moskovskiy tekstil'nyy institut.
(Artificial fur)

SHALOV, I.I., prof., doktor tekhn.nauk

Evaluation of the voluminosity of yarn and knit fabrics. Tekst. prom. 24 no.1:24-27 Ja '64. (MIRA 17:3)

1. Moskovskiy tekstil'nyy institut.

SHALOV, I.I., prof.

Polypropylene fibers and prospects for their use in the knit goods industry. Tekst. prom. 24 no.8:43-49 Ag '64. (MIRA 17:10)

1. Moskovskiy tekstil'nyy institut.

VERKHOVINA, L.A., aspirantka; SHALOV, I.I., prof., rukovoditel' raboty

Using the shrinkage properties of polypropylene fibers in the manufacture of warp-knit goods. Tekst. prom. 25 no.9:53-57 S '65. (MIRA 18:10)

1. Moskovskiy tekstil'nyy institut.

SHALOV, I.I.; KOZLOVA, E.I.; SADOVSKAYA, L.Z.; KHOKHLOVA, Z.S.

Studying the properties of artificial fur fabrics. Nauch.-issl. trudy VNIITP no. 5:166-179 '64 (MIRA 19:1)

L 24482-66 EWT(d) IJP(c) JKT

ACC NR: AP6006144 SOURCE CODE: UR/0376/65/001/010/1338/1365

26
23
B

AUTHOR: Shalov, V. M.

ORG: Central Aerohydrodynamic Institute imeni N. Ye. Zhukovskiy (Tsentral'nyy Aerogidrodinamicheskiy institut)

TITLE: Principle governing the minimum of the quadratic functional for a hyperbolic equation

SOURCE: Differentsial'nyye uravneniya, v. 1, no. 10, 1965, 1338-1365

TOPIC TAGS: hyperbolic equation, functional equation, functional analysis, variational calculus, oscillation equation

ABSTRACT: Utilizing a procedure he expounded earlier (*DAN SSSR*, 151, Nos. 2, 3, 1963), the author formulates and investigates a variational problem which is directed toward minimizing the quadratic functional for the hyperbolic equation of string oscillations:

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$$\frac{\partial^2 u}{\partial t^2} - \frac{\partial^2 u}{\partial x^2} = g,$$

in a certain two-dimensional bounded region Ω with a piecewise discontinuously differentiable contour Γ. Here t is time; x is the coordinate of string points; u is the desired function corresponding to string displacement (deflection); velocity of wave

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L 24482-66

ACC NR: AP6006144

3

propagation along the string described by equation (1)--taken equal to unity for simplicity. Ordinarily the indicated method of minimum functional is applicable only to differential equations of the elliptic type. In his earlier two works, the author demonstrated in terms of Hilbert space the possibility of extending the variational principle of minimizing the quadratic functional to a rather extensive class of nonselfadjoint equations and set up the corresponding problems. In the present work the author investigates: (a) the existence and uniqueness of the solution of the variational problem, (b) the existence and uniqueness of the generalized solution, (c) the generalized solution's relation to the solution of the variational problem and its differential properties, (d) the problem of satisfying the boundary conditions, and (e) the correctness of the string oscillation problem. In particular, he demonstrates the correctness of a certain mixed problem for the string oscillation equation in the case where the boundary-value data is given on the entire boundary. The main aim of the present work is to illustrate the general applicability of the method to the investigation of equations of the non-elliptic type, which includes the hyperbolic. The author thanks the following: Academician S. L. Sobolev for directing his attention to the present problem; his scientific director, Professor L. D. Kudryavtsev for constant interest and assistance in the work; and Candidate of Physico-mathematical Sciences G. N. Yakovlev for valuable comments. Orig. art. has: 2 figures, 85 formulas.

SUB CODE: 12,20/ SUBM DATE: 29Apr65/ ORIG REF: 020/ OTH REF: 006

Card 2/2 PB

L 13828-63 EWT(d)/FCC(w)/BDS AFFTC IJP(C)

ACCESSION NR: AP3003548 S/0020/63/151/002/0292/0294

53
52

AUTHOR: Shalov, V. M.

TITLE: Some generalizations of Friedrichs spaces 16

SOURCE: AN SSSR. Doklady, v. 151, no. 2, 1963, 292-294

TOPIC TAGS: Friedrichs space, self-adjoint operator

ABSTRACT: The author considers a class of operators associated with a generalized K. Friedrichs space, which allows him to state a variation problem for a sufficiently large class of equations with an operator that is not necessarily self-adjoint and that does not necessarily have a bounded inverse. He introduces notions of extensions of operators in the sense of K. Friedrichs and in the sense of S. L. Sobolev, and establishes certain relations between these extensions. "In conclusion, I express my sincere gratitude to professor L. D. Kudryavtsev for his interest in the work and for his valuable suggestions." The paper was presented by Academician S. L. Sobolev on 8 February 1963. Orig. art. has: 3 formulas.

Association: Institute of Mathematics, Academy of Sciences, SSSR

Card 1/2

L 14362-63 EWT(d)/FCC(w)/BDS AFFTC IJP(C)

ACCESSION NR: AP3003841 S/0020/63/151/003/0511/0512

AUTHOR: Shalov, V. M. [redacted]

53
51

TITLE: Solution of non-self-adjoint equations by variation method

16

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 511-512

TOPIC TAGS: non-self-adjoint equation, Friedrichs equation, variation method for solving equation, variation method

ABSTRACT: An auxiliary operator B is introduced for the functional equation Au = f, which satisfies the conditions:

(1) (Au, Bv) = (Bu, Av);

(2) (Au, Bv) is greater than zero for u, v not zero; (Au, Bu) tending to zero implies the norm of u tends to zero. These operators can be B-extended in the sense of K. Friedrichs to A and B. Then the solutions of

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$$Au = f$$

are given by those u that minimize the functional

$$D_f(u) = (Au, Bu) - (Bu, f) - (f, Bu).$$

"In conclusion, the author expresses his deep gratitude to professor L. D. Kudryavtsev for valued comments and constant attentiveness to the present work." Orig. art. has: 3 formulas.

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR (Institute of Mathematics, Academy of Sciences, SSSR).

SUBMITTED: 05Nov63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: MM NO REF SOV: 005 OTHER: 003

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SHILOV, V.M.

Principle of minimization of a quadratic functional for a hyperbolic equation. Dif. urav. 1 no.10:1338-1365 O '65. (MIRA 18:10)

1. TSentral'nyy aerogidrodinamicheskiy institut imeni Zhukovskogo.

SHALOVA, I. I. (Moscow)

IGNATOVA, Lidia Petrovna, kandidat tekhnicheskikh nauk; NADEZHDINA, N.P., retsenzent; SHALOVA, I.I., retsenzent; MOGILEVSKIY, I.Ya., nauchnyy redaktor; GORDEYCHIK, G.M., redaktor; MEDVEDEV, L.N., tekhnicheskiy redaktor

[Preparing yarn for the knit goods production] Podgotovka priazhi dlia trikotazhnogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1954. 131 p. (MLRA 8:3)

(Knit goods industry) (Yarn)

MAYENTS, L.S.; LOKSHIN, B.V.; SHALTUPER, G.B.

Vibrational spectra of ferrocenes. Part 1. Calculation of normal vibrations of the cyclopentadiene ring of ferrocene. Opt. i spektr. 13 no.3:317-323 S '62. (MIRA 15:9)
(Iron)
(Cyclopentadiene--Spectra)

FEYGIN, S.A.; BASOV, A.N.; SHALPO, I.N.; BRANDOBOVSKAYA, L.A.

Economics of the refining of sour crude oil: a topic for discussion. Khim. i tekh. topl. i masel 9 no.5:44-48 5 My'64 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.

PHASE I BOOK EXPLOITATION SOV/4303

Frunze. Universitet. Nauchnoye studencheskoye obshchestvo

Sbornik nauchnykh rabot studentov, vyp. 2 (Collection of Scientific Works of Students, No. 2) Frunze, 1959. 99 p. 500 copies printed.

Sponsoring Agency: Kirgizskiy gosudarstvennyy universitet. Nauchnoye studencheskoye obshchestvo.

Resp. Ed.: L. A. Spektorov, Docent; Tech. Ed.: N. A. Yefimov.

PURPOSE: This book is intended for mathematicians, natural scientists, and philologists.

COVERAGE: The collection of articles contains studies in mathematics and mechanics, physics, biology, and philology written by members of the Nauchnoye studencheskoye obshchestvo (Students' Scientific Association) of Kirgizskiy gosudarstvennyy universitet (Kirgiz State University) under the guidance of faculty members. References accompany each article.

PHYSICS

BIOLOGY

Card 4/6

SHALPYKOV, A., student IV kursa

Quantitative analysis of aluminum on the basis of width of spectral lines. Sbor.nauch.rab.stud. Nauch.stud.ob-va Kir.un. no.2: 47-50 '59. (MIRA 13:7)

1. Fiziko-matematicheskiy fakul'tet Kirgizskogo gosudarstvennogo universiteta.
(Aluminum—Spectrum)

LOBANOV, Ye.M.; ZVYAGIN, V.I.; SHALPYKOV, A.

Sensitivity of silicon photoelements to X rays. Dokl.AN Uz.SSR no.6:11-12 '59. (MIRA 12:9)

1. Fiziko-tekhnicheskiy institut AN UzSSR i Institut yadernoy fiziki AN UzSSR. Predstavleno akademikom AN UzSSR S.V.Starodubtsevym.

(Photoelectric cells) (X rays)

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B139/B102

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26.1512

AUTHORS: Shalgykov, A., Lobanov, Ye. M.

TITLE: Photoelectrical properties of silicon photocells with depletion layers

SOURCE: Nekoteriye voprosy prikladnoy fiziki. 1961. 36 - 49

TEXT: The Institut poluprovodnikov AN SSSR (Institute of Semiconductors AS USSR), the Fizicheskiy institut AN SSSR (Physics Institute AS USSR), and the Fiziko-tekhnicheskiy institut AN UzSSR (Physicotechnical Institute AS Uzbekskaya SSSR) are concerned with the technological aspects of the manufacture of silicon photocells. Since silicon photocells with depletion layers are potential indicators for radiation and might also be used for converting solar energy or nuclear radiation into electric energy, the authors studied the effect of gamma and X-rays on valve-type silicon photocells. The photocells, supplied by the last-mentioned institute, had been obtained by diffusing phosphorus into p-type Si (4 ohm·cm; electron lifetime, $5 \cdot 10^{-6}$ sec). The depth of the p-n junction was about 2μ. The ohmic Pd contacts were electrolytically produced. The sensitive surface

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Photoelectrical properties of ...

$\bar{E}$ = mean energy of a Compton electron, and $\bar{\varepsilon}$ = mean energy required for the production of an electron-hole pair. μ was experimentally found to be 0.113 ± 0.0095. The values $\bar{E}$ = 0.59 Mev and $\bar{\varepsilon}$ = 3.6 ev were taken from publications. Using these values, the diffusion length of three silicon photocells was calculated to be 118, 245, and 257μ. There are 8 figures and 15 references: 11 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: Chapin, Fuller & Peerson, J. Appl. Phys. 25, 676, 1954; Bell Lab. Rec., 33, 241, 1955; Heitler W., "The Quantum Theory of Radiation" Press New York. N 4. 1954; Yremmelmejer Proc. Y. R. E. 46, N 6, 1045 - 1049. 1958; Mc Kay K. C., Me-Afee K. B., Phys. Rew. 91, 1079, 1953

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33117
S/638/61/001/000/044/056
B108/B138

24.2253

AUTHORS: Shalpykov, A., Lobanov, Ye. M.

TITLE: Gamma sensitivity of silicon photocells

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 271-276

TEXT: To investigate the possibility of using silicon photocells as direct converters of nuclear into electrical energy the authors studied p-type silicon valve-photocells prepared by them in the semiconductor laboratory of the Fiziko-tekhnicheskiy institut AN UzSSR (Physicotechnical Institute AS UzSSR). Research in the field of silicon photocells is being advanced particularly, at this institute and at the Institut poluprovodnikov (Semiconductor Institute) and Fizicheskiy Institut AN SSSR (Physics Institute AS USSR). The lux-ampere characteristics of the barrier-layer photocells were linear up to 600 lux. The spectral characteristics had their sensitivity maximum around 7500 Å. The photocurrent is linearly dependent on the area irradiated and is directly proportional to the

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Gamma sensitivity of silicon ...

intensity of incident X-rays. Silicon photocells can therefore be used in X-ray dosimeters. The gamma-ray experiments were made with Co^{60} as source (15 r/hr). The current recorded is linearly dependent on gamma-ray intensity. At a dose of 500 r/hr, it is of the order of 10^{-7} a. The photoelectric effect at the p-n junctions under gamma irradiation can be used to determine the diffusion length of minority carriers. The overall absorption coefficient for gamma rays from Co^{60} was found to be 0.113 ± 0.0095. With the aid of this value and with data from other publications (Maslakovets Yu. P. et al. ZhTF, 1956, 26, 2396) the diffusion lengths L = 118, 245, and 257 μ were determined for the three different silicon photocells from the formula $I_{short} = egL$. e - electron charge, g - rate of carrier production. There are 5 figures and 12 references: 9 Soviet and 3 non-Soviet. The reference to the English-language publications read as follows: Chapin, Fuller and Peerson. J. Appl. Phys., 25, 676, 1954; Bell. Lab. Pec., 33, 241, 1955; Vremmelmejer. Procy. IRE 46, 6, 1045-1049, 1958; Heitler W. The Quantum Theory of Radiation, Oxford University, Press, New York, 4, 1954.

ASSOCIATION: Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics AS Uzbekskaya SSR)

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31069
S/166/61/000/006/010/010
B102/B138

24.7700(1035,1043,1055)
26.1512

AUTHORS: Shalpykov, A., Lobanov, Ye. M.

TITLE: Determination of some parameters of semiconducting materials by electron irradiation of p-n junctions

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1961, 80-81

TEXT: The authors examined the dependence of a Si photocell current on the energy and on the intensity of the incident electron beam. The energy of the bombarding electrons was varied between 0 and 30 kev by means of a high-voltage rectifier. The incident electron current did not exceed 20 μa at a beam diameter of about 10 mm. During the measurements the photocells were placed inside a glass chamber in which pressure was maintained at 10^{-6} mm Hg. The current in the cell due to electron bombardment was separated from the photocurrent due to light emission from the electron gun. The cells were made of p-type Si single crystals, with p-n junction produced by thermal diffusion in gaseous phosphorus. Results: The short-circuit current, I_{sc}, caused by electron bombardment increased

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